NBC NEWS -STS-51-F LAUNCH ABORT (7-12-1985)

https://www.youtube.com/watch?v=cRkqo3luE6w (https://www.youtube.com/watch?v=cRkqo3luE6w)

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From July 12th, 1985 NBC NEWS coverage of the abort of STS-51-F, the 19th Space Shuttle launch. Space Shuttle Challenger was aborted at T-3 Seconds.

STS-51-F CREW:

Commander: C. Gordon Fullerton
Pilot: Roy D. Bridges Jr.
Mission Specialist 1: Karl G. Henize
Mission Specialist 2: F. Story Musgrave
Mission Specialist 3: Anthony W. England
Payload Specialist 1: Loren W. Acton
Payload Specialist 2: John-David F. Bartoe

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at this time good afternoon everyone i'm tom brokaw nbc news in new york and you're looking at the launch pad at cape canaveral florida where they have just at the last possible moment aboard the flight of the challenger it was to have been a seven day mission strictly scientific the eighth flight for the challenger in two years they were in the final seconds you saw some activity at the base of the solid thrusters now the cooling process begins this is a fairly crucial time [Music] because they had activated a lot of the systems on board the onboard computers had already taken over the firing sequence and they're cooling it down now on the shuttle you have a a very volatile system on the cape canaveral pad there big orange colored tank of course is filled with and robert brazile is at cape canaveral any clue there bob as to what happened in the closing seconds tom there's no clue right now the biggest danger right now is the liquid hydrogen they have to watch very carefully that it might boil there was a small fire uh at the base of the engines they turned on the automatic fire suppression equipment the water that you saw a few minutes ago to turn out the fire we're listening to the voices of the astronauts right now they seem to be very calm everybody's assessing the situation we don't know why the engine's shut down this happened once before last june 1984 at exactly the same time uh three seconds to to launch they're trying to assess the situation they have not yet ordered an evacuation of the crew however they have put the access arm back in place so that the crew could get out of there in a matter of just a few minutes by going down the slide wire you can see on the screen there a picture uh it looks like the base of the main engine there is a fire there there are automatic uh hoses out there that are are trying to put out the fire the mission of the launch control is talking to the astronauts trying to

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astronauts trying to the main thing that they're watching is to make sure that the hydrogen fuel does not boil over and it does present a danger of an explosion at this point that doesn't mean there will be one they're watching it very close bob we just heard a report from uh from launch control that they have been going through the various sensors in the system looking for leaks and thus far they've not discovered anything one of the reasons they're looking for leaks is if it becomes necessary to order an evacuation of the eightmember crew they want to make sure that there's they don't put the crew into more danger by ordering them out of the capsule so you see a very good shot of the fire hoses squirting down on the the main engines there where we have seen some fire now fire it bob yeah well let's let's just listen a little bit because there's a fair amount of activity between the cockpit and uh launch control and maybe we can pick up some information there orbiter challenger and the test team here in the launch control center is in the process of backing out of this launch attempt making sure that everything is safe on the vehicle uh we have no report yet as to what caused this abort we got down to approximately the t minus three second mark automatic cut-off [Applause] and commanded a shutdown of the three main engines shut down that automatic uh sequence which uh cuts off the launch countdown within 31 seconds and particularly after main engine start uh terminated this afternoon's

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there was no firing of the big solid rocket thrusters on either side of the shuttle was there i mean that that's correct that's correct tom the big solid rocket boosters are like roman candles and once they go the shuttle's got to go what happened was that at least one and maybe more of the main engines started to fire the computers on board detected something was wrong we don't know what was wrong yet but the computers ordered a shutdown at t minus three seconds there was some fire at the base of the ship out the fire now and what's happening is that the launch control center is making sure uh and deciding what to do next uh this is a very crucial moment but everybody in the launch control center is remaining very calm yeah we saw a fair amount of spark activity at the base of the main engine on the shuttle itself they fired up at about four seconds in that's a routine procedure for them to light up then and then of course we'll get the firing under normal procedures of the solid rocket boosters and we did not get them but we did see a fair amount of spark activity and then of course it was aborted and the decision is made not by the men on board and not by the men in launch control but by the computer at that point because the onboard computers and there are primary systems and backup systems make a decision based on what they are reading of what is going on and what they have read that was wrong we still don't know yeah that's correct tom and as as i said it does not look now like they're going to order an evacuation of the crew the last time this happened they said that the main concern to t minus three seconds was a possible explosion from the liquid fuel they watched the gauges very closely and apparently they've decided that there is no danger so the astronauts the eight men on board appear to be safe and we'll be seeing them coming off in a while okay we're going to take another look bob at the final 10 seconds of this aborted liftoff today at cape canaveral it's always a dramatic moment whether it goes or not here's the tape replay six five

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here's the tape replay six five four three we have another support it could not come any later than that that's the last possible second because as bob gazelle indicated once those solid rocket thrusters on either side of the shuttle light up there is no controlling them they are roman candles and they lift it off whether it's ready to go or not but they have aborted it and what you're seeing now once again is a live picture of the cooling process at the base of the main engines that were firing on the space shuttle challenger and of course the great concern is what happens to all of that liquid hydrogen which is in the big orange tank that is attached to the underside of the challenger they don't want any explosion of any kind because that would erupt in a fireball there on the pad at cape canaveral to put it quite bluntly so they're in the cooling procedure now they've checked for leaks thus far they have not found any and then they will go through the standard evacuation one guesses of the eight astronauts who are on board this is going to be a major disappointment to nasa because this was to have been a seven day mission and it was described as the most ambitious scientific mission flown by any government anywhere at any one time as you know the space shuttle system has had its ups and downs recently they've had a couple of good missions and they had hoped that this one would go off on time today at 4 30 eastern time but it has not there are seven people on board all together directed by including the oldest astronaut ever to fly 50 year old carl hines and he's been a uh an astronaut for 18 years now there's the crew and happier times before they were loaded into the before they were loaded into the challenger cockpit today they were all strapped in place it must have been at once an exhilarating and terrifying and then finally a moment of some relief when they knew that nothing ultimately was wrong with the shuttle that would cause them any

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the shuttle that would cause them any personal danger at least that's what we believe at this time so three seconds before liftoff today for the space shuttle challenger the mission was aborted the call made by the by the computers that are on board the big spacecraft and we do not yet know what just exactly went wrong what we do know however is that the astronauts still are on board the cooling procedure is underway and they will be evacuated it now looks as if they will not have to use the emergency evacuation procedure which means that they go down a a guide wire a slide in effect everyone describes that as something that will work but it's never really been tested under real-time conditions and it's a harrowing ride under the best of circumstances it does appear that they'll be able to make a normal evacuation of the uh space shuttle challenger bob bazelle do you know anything more at this point yeah tom they've declared that all the systems on board that could possibly present a danger to the astronauts have been saved in other words there are no dangers right now so that it becomes a much more routine now uh of shutter operation of shutting down all the systems until the astronauts will be taken off so they at nasa has declared that there is no danger and it looks like whatever the problem was that they don't know what that is yet but the astronauts are not going to have to evacuate in a hurry conceivably it could have been a computer problem it may not have been a problem with the system at all yeah it could have been anything uh the last time this happened it was because a valve got stuck and wasn't letting out the right amount of fuel but the computer is monitoring thousands of things at once and it detects any problem it just orders a shutdown as it did in this case they had hoped to uh do a number of experiments and of course they'll reschedule this flight they're principally these are astronomy experiments they'll be measuring the sun they'll be taking a composite photograph and effect of the sun because as they say in astrophysics it all begins and ends with the sun and they wanted to learn a good deal more about the sun and how it functions they'll also be looking at distant galaxies and other stars once they get up there they'll be looking at the radiation

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they'll be looking at the radiation patterns for example in the milky way well one of the things tom is that the science mission of course is not as critical of the commercial operation of the space shuttle so that it will not be like any satellites won't be launched or anything like that but this will be a crucial setback again for the shuttle program because it'll take months and months of troubleshooting to find out exactly when to run wrong it'll have an answer within a few hours of probably went wrong but to make sure that it's fixed to make sure that it doesn't happen again will take a while on the yet the so the shuttle program is facing yet another another setback well it's a big public relations blow bob because they're in the trucking business these days they want to get a lot of contracts from a lot of scientific concerns and other concerns that have business and space and they've got to have an on-time departure and an on-time arrival and once again we're seeing the delay of a space shuttle launch for reasons that we do not yet know why but at any rate it cannot uh it cannot add an air of confidence to this shuttle program which as you indicated and i did a few moments ago has been troubled from the onset yeah nasa was expecting to have many launches a year by now they were hoping to have one a month by now and obviously with this kind of problem they're not getting anywhere near that nasa was expecting to have many launches a year by now they were hoping to have one a month by now and obviously with this kind of problem they're not getting anywhere near that the challenger which you see still on the pad there which had been shut down it is the eighth flight for that particular shuttle now in the last two years so it is the veteran of the series and yet it too developed apparently some problems today that's right the last time this happened thomas was on discovery so it whatever the problem is it is not unique to one particular orbiter we're going to listen once again to uh launch control

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yeah did we get some ratings in the white room is going back and forth with uh launch control going through the various checks and the debriefing for what possibly went wrong there meanwhile at cape canaveral now robert bazelle is standing by with one of the guests yeah with me tom is jim mizell who's a public affairs officer for nasa jim i know you don't know exactly what happened yet but what's your best guess right now well obviously the shuttle launch sequencer shut the orbiter down at about t minus three seconds so we monitor about two thousand measurements what we call redline measurements during this period of time if any one of these measurements exceeds a certain limit which is preset into the computer the computer will shut down this is an order to save the crew in order to save the orbiter as well how much danger was the crew in during those first seconds after the shutdown well as on as happened on discovery before this computer is set up and we have practiced many times on such shutdowns as this and the system uh is fail safe it will fail in a safe mode all the systems will revert back to a safe condition the water systems will come on and preclude having any fire in the pad area so the astronauts in a very safe position as well as the shuttle itself now this is a big disappointment yet again for nasa a little bit more than a year after the same thing happened the last time it happened it caused a serious setback in the shuttle program what do you think will happen this time well it's a little early to say right now uh it could be a serious problem or it could be a simple problem sometimes uh something can exceed a red line just by a few tenths of a degree and the system is uh definitely honest it will shut down well it certainly did

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it will shut down well it certainly did thank you jim okay now back to you in new york time thanks very much bob buzzell by the way uh we have been talking about the last last second aboard that was in june 25th 1984 and it wasn't until august 30th of that year that they were able to reschedule that fight so we don't know how long it will take to turn this one around it is the eighth flight of the challenger it was a scientific mission it was scheduled to go for seven days a crew of seven on board they were worried earlier today about weather conditions in the cape but that turns out not to have been a problem what turns out to have been a problem we don't know yet but at any rate the computer aborted this mission just three seconds before liftoff today scheduled liftoff at 4 30 eastern time and as you can see they're still going through the procedures trying to get the astronauts out of there there is no danger to the astronauts we have been assured at this time they're going through various checks and procedures we have been told that uh there is no leak in the system that anyone has been able to monitor of course a lot of that monitoring is done by the computer as well so we'll just have to go through the painstaking process of now of going through the system point by point and there are lots of points to find out precisely why the computer decided no we're not going to go today in the closing seconds so that's the situation at cape canaveral the kennedy space center in florida today a big disappointment for nasa one would guess they had hoped to get this launch off on time today to demonstrate that they can turn the shuttles around very rapidly they were scheduled to launch they were scheduled to land at edwards air force base in california next week a crew of seven on board they're still there they should be coming out before too long it was just three seconds before liftoff for this scheduled launch of the shuttle challenger when the onboard computer said this is an abort once again here's a tape of the closing seconds of uh eight seven six five

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eight seven six five four three two we have an rsls abort we have an abort well there was nothing obvious in that picture to my layman's eye i've seen a number of these launches by now and that all was fairly normal there was a fair amount of a spark activity at the bottom but we've seen that in the past as well now once again let's listen to launch control problem concerning the engine the operation of the three main engines and for that reason uh because uh it sensed a possible problem a commanded shutdown of the engines and an abort of this afternoon's launch attempt it will be some time and take a detailed review of engineering data to exactly sort out what happened the rsls abort redundant set launch sequencer abort is of the same type that we have had previously however it's impossible to indicate at this point or say whether the problem which triggered that was semi similar well there you heard jim ball describing what the situation is so far as they know it at this time the computers detected a possible problem in the main engines of the shuttle challenger those are the engines that you see right at the base those are the engines that had fired uh just moments before scheduled liftoff and then of course were shut down the astronauts are still on board but we have been assured that they are not in danger at this time it's a large cruise seven all together you've got the two uh people up front driving the uh shuttle so to speak and then you've got a number of payload specialists who are primarily scientists and they were scheduled to monitor the sun this time also to monitor radiation activity in uh the milky way and then there was a kind of a commercial experiment on board as well pepsicola and coca-cola both had cans of their products on board to test whether or not they could get along without losing carbonation in space however nasa insisted that there would be no taste testing and no showing

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taste testing and no showing of either pepsico or coca-cola products during the course of this flight well there won't be any fight after all we'll have additional details on the abort of the challenger space shuttle today at cape canaveral and florida tonight on nbc nightly news and any additional developments of course we'll break into programming here on nbc news to bring them to you instantly for now i'm tom brokaw nbc news new york this has been an nbc news report

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